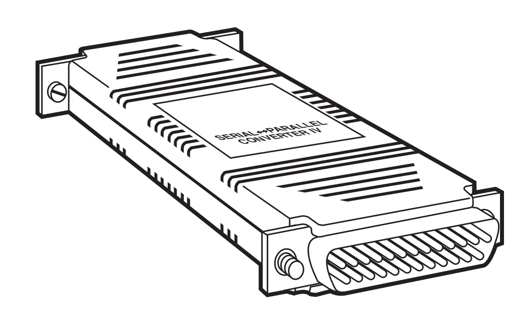


1000 Park Drive • Lawrence, PA 15055-1018 • 724-746-5500 • Fax 724-746-0746



JUNE 2001
PI125A-R2
PI126A

Serial↔Parallel Converter IV
Serial↔Parallel Converter for HP® DeskJet® Printers



CUSTOMER SUPPORT INFORMATION

Order **toll-free** in the U.S. 24 hours, 7 A.M. Monday to midnight Friday: **877-877-BBOX**
FREE technical support, 24 hours a day, 7 days a week: Call **724-746-5500** or fax **724-746-0746**
Mail order: **Black Box Corporation**, 1000 Park Drive, Lawrence, PA 15055-1018
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European Union Declaration of Conformity

The CE symbol on the equipment indicates that it is in compliance with the Electromagnetic Compatibility (EMC) directive and the Low Voltage Directive (LVD) of the Union European (EU).



FEDERAL COMMUNICATIONS COMMISSION AND INDUSTRY CANADA RADIO FREQUENCY INTERFERENCE STATEMENTS

This equipment generates, uses, and can radiate radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio communication. It has been tested and found to comply with the limits for a Class A computing device in accordance with the specifications in Subpart J of Part 15 of FCC rules, which are designed to provide reasonable protection against such interference when the equipment is operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user at his own expense will be required to take whatever measures may be necessary to correct the interference.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This digital apparatus does not exceed the Class A limits for radio noise emission from digital apparatus set out in the Radio Interference Regulation of Industry Canada.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de classe A prescrites dans le Règlement sur le brouillage radioélectrique publié par Industrie Canada.

NORMAS OFICIALES MEXICANAS (NOM) ELECTRICAL SAFETY STATEMENT

INSTRUCCIONES DE SEGURIDAD

1. Todas las instrucciones de seguridad y operación deberán ser leídas antes de que el aparato eléctrico sea operado.
2. Las instrucciones de seguridad y operación deberán ser guardadas para referencia futura.
3. Todas las advertencias en el aparato eléctrico y en sus instrucciones de operación deben ser respetadas.
4. Todas las instrucciones de operación y uso deben ser seguidas.
5. El aparato eléctrico no deberá ser usado cerca del agua—por ejemplo, cerca de la tina de baño, lavabo, sótano mojado o cerca de una alberca, etc.
6. El aparato eléctrico debe ser usado únicamente con carritos o pedestales que sean recomendados por el fabricante.
7. El aparato eléctrico debe ser montado a la pared o al techo sólo como sea recomendado por el fabricante.
8. Servicio—El usuario no debe intentar dar servicio al equipo eléctrico más allá a lo descrito en las instrucciones de operación. Todo otro servicio deberá ser referido a personal de servicio calificado.
9. El aparato eléctrico debe ser situado de tal manera que su posición no interfiera su uso. La colocación del aparato eléctrico sobre una cama, sofá, alfombra o superficie similar puede bloquea la ventilación, no se debe colocar en libreros o gabinetes que impidan el flujo de aire por los orificios de ventilación.

10. El equipo eléctrico deber ser situado fuera del alcance de fuentes de calor como radiadores, registros de calor, estufas u otros aparatos (incluyendo amplificadores) que producen calor.

11. El aparato eléctrico deberá ser connectado a una fuente de poder sólo del tipo descrito en el instructivo de operación, o como se indique en el aparato.

12. Precaución debe ser tomada de tal manera que la tierra fisica y la polarización del equipo no sea eliminada.

13. Los cables de la fuente de poder deben ser guiados de tal manera que no sean pisados ni pellizcados por objetos colocados sobre o contra ellos, poniendo particular atención a los contactos y receptáculos donde salen del aparato.

14. El equipo eléctrico debe ser limpiado únicamente de acuerdo a las recomendaciones del fabricante.

15. En caso de existir, una antena externa deberá ser localizada lejos de las lineas de energia.

16. El cable de corriente deberá ser desconectado del cuando el equipo no sea usado por un largo periodo de tiempo.

17. Cuidado debe ser tomado de tal manera que objectos liquidos no sean derramados sobre la cubierta u orificios de ventilación.

18. Servicio por personal calificado deberá ser provisto cuando:

    A: El cable de poder o el contacto ha sido dañado; u

    B: Objectos han caído o líquido ha sido derramado dentro del aparato; o

    C: El aparato ha sido expuesto a la lluvia; o

    D: El aparato parece no operar normalmente o muestra un cambio en su desempeño; o

    E: El aparato ha sido tirado o su cubierta ha sido dañada.

Contents

1. Specifications

Data Rates —	300, 600, 1200, 2400, 4800, 9600, 19,200, 38,400 bps
Indicators —	LED displays status and operating condition
Interface —	EIA RS-232 async serial (autosensing DTE/DCE) and IBM PC parallel
Connectors —	(1) DB25M, (1) DB25F
Data Format —	7 or 8 bits; 1 or 2 stop bits; even, odd, or no parity
Temperature Range —	32 to 140°F (0 to 60°C)
Altitude —	Up to 10,100 feet (3078 m)
Humidity —	5 to 95%, noncondensing
Power —	No external power required; uses power from the RS-232 interface

Size — 3.4"H x 1.3"W x 0.8"D (8.7 x 3.3 x 2 cm)

Weight — 2 oz. (57 g)

2. Introduction

2.1 Description

The Serial↔Parallel Converters automatically convert RS-232 serial data to parallel data format and vice versa, in one direction at a time. Incorporating advanced microprocessor technology, they are able to automatically sense and select parallel and serial modes, as well as DCE/DTE modes. Requiring no AC power, these Converters support serial data rates to 38.4 kbps.

For easy configuration, the Converters feature a convenient set of external configuration switches. These accessible configuration switches allow you to control baud rate, parity, word length, and flow control. An easy-to-read LED indicator displays status and operating condition.

Housed in an ultra-miniature ABS plastic case, each Converter comes equipped with a DB25 female connector on the serial side and a DB25 male connector on the parallel side.

2.2 Features

- Converts parallel data to serial data and vice versa.
- Automatically selects parallel-to-serial and serial-to-parallel operation.
- Automatically selects DCE/DTE modes.
- Serial data rates to 38,400 bps.
- No AC power required.
- Supports both software and hardware flow control.
- A five-state LED monitors status and diagnostics.
- External configuration switches.
- Ultra-miniature size.

3. Configuration and Installation

The Converter is simple to install and extremely reliable. The following instructions will help you set up and install your converter properly. If you have any questions, please call Black Box Technical Support at 724-746-5500.

3.1 Configuration Switches

The Converters each use a set of eight external DIP switches (see **Figure 3-1**) that allow configuration to a wide range of applications. Because all eight switches are in one externally accessible DIP-switch package, you don't need to open the case for configuration. The configuration switches allow you to select data rates, parity, word length, and flow control. This section describes all switch locations, positions, and functions.

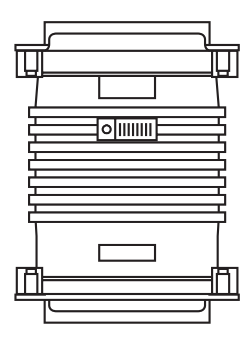


Figure 3-1. The location of the configuration switches.

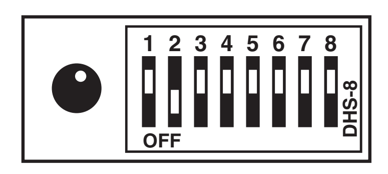


Figure 3-2. The miniature configuration switch package.

The Converters use a miniature configuration switch package. To configure your unit, use a small screwdriver and gently push each switch to its proper setting. The ON and OFF positions are shown in **Figure 3-2**. Default settings (noted with an asterisk) for the DIP switches are shown in the table on the following page.

Set up the Converter by selecting the appropriate DIP-switch settings for your application.

	Position							
	1	2	3	4	5	6	7	8
Flow Control								
Hardware	OFF*							
Software	ON							
LED								
Enabled		ON*						
Disabled		OFF						
Parity/D. Bits/ S. Bit								
None/8/1			OFF	OFF	OFF*			
Odd/8/1			ON	OFF	OFF			
Even/8/1			OFF	ON	OFF			
None/7/2			ON	OFF	ON			
Odd/7/2			ON	ON	OFF			
Even/7/2			OFF	OFF	ON			
Odd/7/1			OFF	ON	ON			
Even/7/1			ON	ON	ON			
D. Rate (bps)								
300						OFF	OFF	ON
600						ON	OFF	ON
1200						ON	ON	OFF
2400						OFF	ON	ON
4800						ON	ON	ON
9600						OFF	OFF	OFF*
19200						ON	OFF	OFF
38400						OFF	ON	OFF

*Default setting.

3.2 Installation

The Converter is very simple to install. Once you have configured the DIP switches, just plug your Converter into a standard cable and you're ready to go. **Figure 3-3** shows the proper connections.



Figure 3-3. Typical installation.

4. Reading the LED

Once your Converter is properly configured and installed, it should operate transparently—as if it were a standard cable connection. Operating power is derived from the RS-232 data and control signals; there is no “ON/OFF” switch.

The Converter indicates data activity by blinking. When the Converter has another message to report, the LED blinks according to the codes in **Table 4-1** below.

Table 4-1. LED Codes

••-•—••-•—	**Computer is sending data**
•—•—•—	**Serial device is connected; computer is not sending data**
••—••—	**Both serial and parallel devices are connected; computer is not sending data**
•-•—•-•—	**Printer not ready, data held in buffer**
••••—••••	**Computer ignoring flow control, data lost**

Key:

•	**Blink**
-	**Short pause**
—	**Long pause**

5. Troubleshooting

If your Serial↔Parallel Converter seems to be malfunctioning, *do not attempt to alter or repair* the unit. Contact Black Box Technical Support at 724-746-5500.

Before you do so, make a record of the history of the problem. We will be able to provide more efficient and accurate assistance if you have a complete description, including:

- The nature and duration of the problem.
- When the problem occurs.
- The components involved in the problem.
- Any particular application that, when used, appears to create the problem or make it worse.

If you need to transport or ship your Converter:

- Carefully package it. We recommend that you use the original container.
- If you're shipping the Converter back to Black Box, call Technical Support to get a Return Materials Authorization (RMA) number.

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